

WHAT IS CLAIMED IS:

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1. A printing apparatus for forming a color image by applying different color inks to a printing material while bi-directionally moving the recording head to scan the recording material, said apparatus comprising:
  - changing means for changing an order of applications of the inks to be applied for printing a secondary color to a secondary color pixel area;
  - forming means for forming the secondary color while making the order of applications of the inks to at least one of a plurality of the secondary color pixel areas arranged along a raster scan direction different from the order of another, by said changing means.
2. An apparatus according to Claim 1, wherein said forming means forms the secondary color while changing by said changing means the order for substantially half number of the secondary color pixel areas arranged along the raster one direction.
3. An apparatus according to Claim 1, wherein said recording head includes one or more sets of recording elements for application of the color ink, the recording elements constituting the set being arranged in the scanning direction symmetrically, and

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said changing means selects one of the recording elements constituting the set to make the order of applications of the inks to the pixel area different from the order of another.

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4. An apparatus according to Claim 3, wherein said changing means includes print buffers for the recording elements disposed symmetrically, which selectively store print data for applying the ink from a corresponding recording elements to change the order of applications of the inks to at least one of the secondary color pixel areas arranged in each raster line.

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5. An apparatus according to Claim 4, wherein said forming means distributes the print data to the print buffers on the basis of an image signal corresponding to a color image to make the order of applications of the inks to at least one of the secondary color pixel areas arranged in each raster line different from the order of another.

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6. An apparatus according to Claim 5, wherein said forming means distributes the print data randomly to the print buffers on the basis of the image signal corresponding to the color image.

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7. An apparatus according to Claim 5, wherein said forming means distributes the print data alternately to the print buffers on the basis of the image signal correspondingly to the color image.
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8. An apparatus according to recording element, wherein said recording head includes recording elements for applying different color inks arranged in the scanning direction, and said changing means
- 10 changes the order of applications of the inks to the pixel areas by selecting a scanning direction of the recording head in which the ink is applied to the pixel areas.
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9. An apparatus according to Claim 3, wherein the recording elements includes at least cyan, magenta and yellow ink recording elements, and one of such recording elements is at a center of the symmetry.
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10. An apparatus according to Claim 3, wherein a number of the sets is two.
11. An apparatus according to Claim 9 or 10, wherein said recording head further includes a
- 25 recording element for applying black ink.
12. An apparatus according to Claim 1, further

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comprising means for applying to the secondary color pixel area a plurality of at least one of the color inks to be applied to form the secondary color to make the order of applications of the inks of said one of the color inks symmetrical to that of the other color.

13. An apparatus according to Claim 12, wherein a plurality of the other ink is applied to the pixel area.

14. An apparatus according to Claim 12, wherein centers of gravity of the dots of the different colors applied to the pixel area are substantially aligned with each other.

15. An apparatus according to Claim 12, wherein dots of inks of different colors applied to the pixel area are at least partly overlapped.

16. An apparatus according to Claim 13, wherein a plurality of the dots of the one color ink and a plurality of dots of the other color inks applied in a different order are provided in said pixel area.

17. A printing apparatus for forming a color image by application of different color inks onto a printing material while bi-directionally moving the

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recording head to scan the printing material, said recording head having one or more sets of recording elements arranged in a scanning direction symmetrically, said apparatus comprising:

5           print buffers each corresponding to the symmetrically arranged recording elements constituting the set; and

          distributing means for distributing print data for a color to at least one of the print buffers  
10       on the basis of an image signal corresponding to the color image.

a       18. An apparatus according to Claim 17, wherein said distributing means distributes the print data to  
15       either one of the print buffers when the image signal has a low level, and distributes the print data to both of the print buffers when the image signal has a high level.

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20       19. A printing apparatus for forming a color image by application of different color inks to a printing material while bi-directionally moving the recording head to scan the recording material, said apparatus comprising:

25           changing means for changing an order of applications of inks of different colors to formation a process color in a process color pixel area;

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forming means for forming the process color by making an order of applications of the inks to at least of the secondary color pixel areas arranged in a raster one direction different from the order of another, by said changing means.

20. An apparatus according to Claim 1 or 19, wherein the recording head ejects the ink by heat.

21. A printing method for forming a color image by application of different color inks onto a printing material while bi-directionally moving the recording head to scan the printing material, said method comprising:

a first step of application of different color inks to form a secondary color in a secondary color pixel area in an order of applications;

a second step of application of different color inks to form the secondary color in the secondary color pixel area in an order of applications which is different from the order in the first step;

22. A method according to Claim 21, wherein the recording head includes two sets of recording elements for application of the color ink, the recording elements constituting the set being arranged in the scanning direction symmetrically, and said first step

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and said second step are carried out through one scanning motion of the recording head.

23. A print having a color image provided by  
5 different color inks, comprising:  
a printing material;  
a plurality of secondary color pixel areas  
arranged in a predetermined direction on the printing  
material;

10 wherein the plurality of pixel areas are  
printed by different color inks, and wherein an order  
of applications of the inks to at least one of the  
pixel areas is different from the order of another.

15 24. A print having a color image provided by  
color ink of a first color and ink of a second color,  
comprising:

a printing material;  
a solid secondary color area thereon, said  
20 solid secondary color area including first secondary  
color portions and second secondary color portions  
appearing substantially alternately on the recording  
material, microscopically,

wherein said first secondary color portions  
25 are provided by the inks of the first color and the  
second color and has the secondary color of a first-  
color-rich nature, and said first color portions are

provided by the same different color inks and has the secondary color of a second-color-rich nature.

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25. An apparatus according to Claim 1,  
5 wherein said apparatus is incorporated in a copying  
machine having a scanner effecting the scan.

/ 26. An apparatus according to Claim 1,  
wherein said apparatus is incorporated in a facsimile  
10 machine having a data sending and receiving device.

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